

REMARKS

Claims 1-8, 10-14, 16-18, 20, 22, 30-39, 41-45, 48, 50-58, and 63-65 are pending. No new matter has been added to the application.

Claims 1-8, 10-14, 16-18, 20, 22, 30-39, 41-45, 48, 50-58, and 63-65 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bartlett (U.S. Pat. 6,573,883) in view of one or more of Lee et al. ("Two-Dimensional Position Detection System with MEMS Accelerometer for MOUSE Applications," hereafter *Lee*), Svancarek (U.S. Pat. 6,249,274), Kuga (U.S. Pat. 5,701,131), Davison (U.S. Pat. 4,682,159), and Odamura (U.S. Pat. 6,765,553).

With regard to the recent Office Action, Applicants note that the rejections of the claims under §103 are substantially identical to those of the Office Action mailed November 14, 2007. Furthermore, Applicants continue to disagree with the Examiner, in particular with regard to the characterization of the Bartlett reference as teaching or suggesting limitations of the currently pending claims. However, Applicants also recognize that if the Examiner has not understood the distinctions between the claims and the cited references, it is probably because they were not adequately explained, for which Applicants apologize.

Accordingly, hereafter is provided a more specific discussion of some of the limitations of the claims as they relate to the cited references, and in particular, as they relate to the Bartlett reference. Because Bartlett is the only reference relied upon to show a teaching of these limitations, and because none of the remaining art of record has been pointed to as teaching or suggesting same, it is clear that the claims would be allowable except for the reliance on Bartlett. Therefore, if Bartlett fails to adequately teach or suggest the limitations, the claims are allowable over the remaining art of record. To avoid repetition and reduce the length of this response, the present remarks will be limited to an expanded discussion of Bartlett, while the remarks of Applicants' response to the previous Office Action, filed February 14, 2008, are incorporated herein by reference. When a specific passage of the Bartlett reference is cited, it will be indicated by a column number separated from a line number by a colon, e.g., 4:22, indicating column 4, line 22.

The Office Action points to Bartlett's *position commands* as corresponding to the *first control signals* of claim 1, and points to Bartlett's Figure 2a, which shows an example of a

gesture command, as showing that the movement of the handheld must be sufficiently great for an activation signal to be detected, “otherwise, the activation signal is not detected, thus the angular orientation about an axis of rotation during the time interval reads on a speed of movement threshold or speed threshold as claimed”

Applicant strongly disagrees that Bartlett teaches “a microcontroller ... configured to generate first control signals correlated to said positions, only while detected movements of said body are less than a speed of movement threshold” On the basis of this limitation and the Examiner’s correlation of Bartlett’s position commands with the first control signals, if Bartlett’s device generates *any* position command in response to a movement of its device beyond the threshold that it establishes, it fails to teach the limitation, because it would not have produced the command only while detected movements were less than a speed of its movement threshold, but would have produced the command while the movement was greater than the threshold.

Reproduced below as Figure 1 is Bartlett’s Figure 2a, which is a graph depicting the movement of its device to produce a gesture command. The horizontal axis indicates time and the vertical axis indicates angular orientation of the device. Thus, a line on the graph indicates a rate of change of angle of the device, as indicated by the slope of the line. A dotted line T is provided in Figure 1 to show the approximate rising slope of the line on the graph, thus indicating Bartlett’s threshold for the gesture command in the example given, and a shaded area is provided to encompass the range of movement that exceeds the threshold. For the purposes of this discussion, Applicants will accept the line T as corresponding to a speed of movement threshold, noting that there are no units indicated, so the threshold is an arbitrary value that does not limit the scope of the claim or the threshold values on which the claim reads.

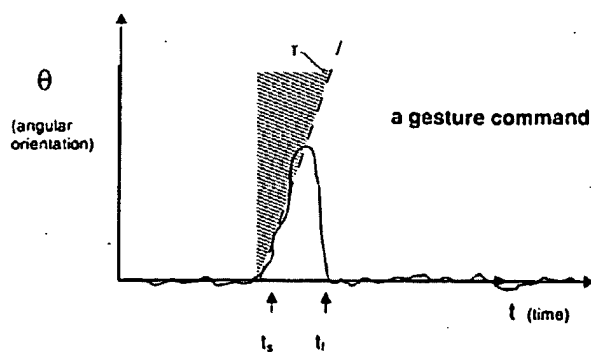


Figure 2a

Figure 1.

The microcontroller of claim 1 generates the first control signals only while detected movements are less than a speed of movement threshold. Therefore, no movement whose plotted line enters the shaded area can result in the generation of a first control signal. Thus, if Bartlett produces any position commands, i.e., “first control signals,” in response to a movement whose line would enter the shaded area, then it fails to teach or suggest the quoted limitation of claim 1. Figures 2-4 each show a graph on which the threshold line T is provided, as well as a line B corresponding to Bartlett’s gesture command described with reference to its Figure 2a.

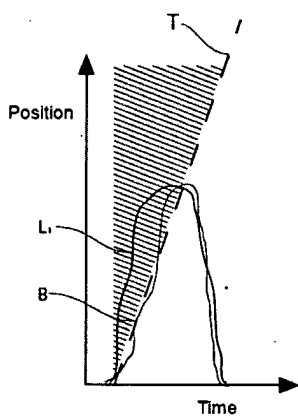


Figure 2

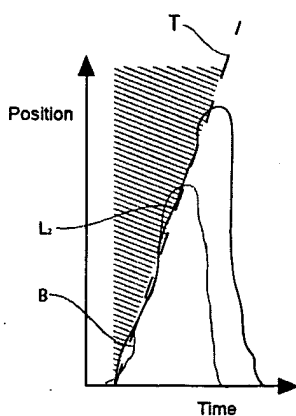


Figure 3

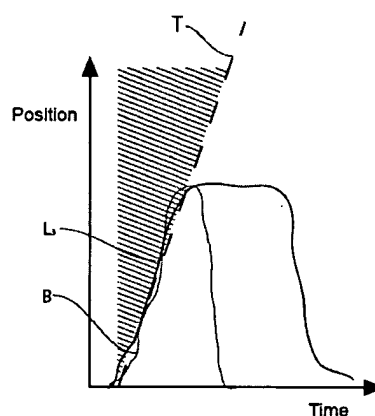


Figure 4

Referring to Figure 2, a line L_1 is provided, depicting a movement that is much faster than the threshold T. Assuming that the difference in the slopes of lines L_1 and T exceeds the allowance made for minor variations (see Bartlett, 4:60-63), the movement of line L_1 would

not be recognized as a gesture command, and would therefore result in corresponding position commands (see 7:8-9), even though the movement clearly exceeds the threshold.

Figure 3 shows a line L_2 that rises at approximately the same rate as line T, but rises much further than the gesture command indicated by line B. Again assuming that the difference in height is greater than the minor variation allowance, Bartlett would again fail to recognize the movement as a gesture command and would therefore produce position commands in response.

Finally, with reference to Figure 4, line L_3 rises at approximately the same rate as line T, but remains at the new position longer than line B, and would therefore again fail to be recognized as a gesture command.

In each of the three examples provided above, movements are shown that exceed a speed of movement threshold and yet, according to Bartlett's disclosure, would still result in its device producing a position command. Thus, Bartlett clearly does not teach producing such a command only while detected movements are less than a speed of movement threshold, but also produces such commands while detected movements exceed the threshold. Thus, Bartlett cannot teach or suggest that limitation of claim 1.

Even if all of the possible movements whose plotted lines would enter the shaded area of the graphs of Figures 1-4 corresponded to different gesture commands – which is not a reasonable assumption, nor is it supported by Bartlett's disclosure – Bartlett would still fail to teach or suggest the quoted limitation of claim 1.

A portion of Bartlett's Figure 2a is provided below as Figure 5. Only the portion of the line representing the actual gesture command is shown. An additional time arrow t_m is provided, indicating the point at which Bartlett's gesture command reaches the highest point in the vertical axis.



Figure 5.

According to Bartlett, a gesture command is only detected after the command is complete, at time t_f (see 6:49-54). When a gesture command is initiated, the device interprets the movement as a position command and responds accordingly (see 7:8-9). Thus, at time t_s , for example, when Bartlett's handheld device rotates in a positive direction, it will begin to scroll upward (see 5:25-27) in response to what is initially assumed to be a position command. As the angle increases, the scrolling changes from stepwise to continuous, and the rate of scrolling continues to increase (see 7:44-46) until time t_m , at which point the rate of upward scrolling will decrease as the device rotates back toward a neutral position, until, at time t_f , the device stops scrolling upward. At this point, the device has scrolled a significant distance from its original position in response to the position commands generated by the device. Also at time t_f , the device compares the gesture with a catalog of gestures to determine whether a gesture command has been executed (4:53-60). Because the line corresponds to a gesture command, the device returns to the position it was in at time t_s , thus reversing the position commands previously issued, then executes the gesture command (see 7:6-19). However, the position commands were generated and acted upon, even though they were later reversed. Thus, position commands are always generated, regardless of any threshold, even in the case where a gesture command is ultimately produced. Accordingly, on this basis too, Bartlett fails to teach or suggest "a microcontroller ... configured to generate first control signals correlated to said positions, only while detected movements of said body are less than a speed of movement threshold" Claim 1 is therefore allowable.

Claim 16 recites, in part, "sending pointer control signals to the electrical appliance corresponding to the axis and amplitude of position of the device only when ... the rate of change does not exceed the speed threshold." (Emphasis added.) As explained in detail above, Bartlett does not teach or suggest this limitation of claim 16, but teaches generating position commands without regard to a speed threshold. Claim 16 is therefore allowable over Bartlett.

Claim 30 recites, in part, "producing control signals corresponding to the movement signals, and suitable for moving a pointer on a computer screen, provided the movement of the body does not exceed a speed threshold." (Emphasis added.) Bartlett does not

teach this limitation. At best, Bartlett teaches generating position commands without regard to a speed threshold, but reversing them if a gesture command is detected. Bartlett cannot teach or suggest this limitation of claim 30, which is therefore allowable.

Claim 36 recites, in part, “a microprocessor ... configured to compare a rate of movement of the pointing device to a threshold and, only if the rate of movement of the pointing device does not exceed the threshold, convert the position signals ... to control signals suitable for controlling position of a pointer on the computer screen.” (Emphasis added.) Bartlett clearly fails to teach or suggest this limitation. Claim 36 is therefore allowable over the art of record.

Claim 42 recites, in part, “a circuit configured to produce a cursor movement command in a first direction, corresponding to a value of the first signal, only when the first signal indicates rotation of the body that is lower than a speed threshold, and to produce a first function command when the first signal indicates rotation of the body that exceeds the speed threshold.” (Emphasis added.) Bartlett clearly fails to teach or suggest this limitation of claim 42, which is therefore allowable over the art of record.

Claim 63 recites, in part, “ a circuit configured to ... [produce a pointer control signal] only if the rate of change does not exceed the rate of change threshold” (Emphasis added.) Bartlett fails to teach or suggest this limitation of claim 63, which is therefore allowable over the art of record.

The Office Action relies solely on Bartlett to teach the limitations quoted above. As has been demonstrated, Bartlett fails to do so. None of the remaining art of record can remedy Bartlett’s deficiency, and so no combination of the art currently of record can teach or suggest all the limitations of the independent claims 1, 16, 30, 36, 42, or 63, and thus such claims are allowable.

In light of the above remarks, Applicant respectfully submits that all pending claims are allowable, and therefore requests that the Examiner reconsider this application and timely allow all pending claims. Examiner Liang is encouraged to contact Mr. Bennett by telephone at (206) 694-4848 to discuss the above and any other distinctions between the claims and the applied references, and to address any informalities that may remain unresolved.

Application No. 10/685,292
Reply to Office Action dated May 6, 2008

The Director is authorized to charge any additional fees due by way of this
Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,
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